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ABSTRACT

This paper describes a project which involved the development and production of CD-ROM based interactive media for the recruitment of students into graduate education programs. It includes the incorporation of user interfaces and the appropriate hypermedia linking of digital video, 35-millimeter still photography, charts, audio and textual information into a CD-ROM format. With this tool, items like graduate catalogs, certification information, or departmental video productions could be made widely available. Procedures involved creating a design flow chart, collecting "raw materials," photo scanning, video capture and editing, and creation of a master and multiple copies for dissemination of information to potential students who have indicated an interest in graduate and certification programs at East Texas State University. Planned dissemination, user feedback analysis, and hardware and software are discussed. (AEF)

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Title:

Creating and Using Hypermedia for Student Recruitment

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Proposal Description

This project involves the development and production of compact disk-read only memory (CD-ROM) based interactive media for the recruitment of students into graduate education programs. It includes the incorporation of user interfaces and the appropriate hypermedia linking of digital video, 35mm stills, charts, audio and textual information into a CD-ROM format. Tech. ...l production, planned dissemination, and user feedback analysis are also addressed.

Description

Recruiting by colleges and universities today has become extremely competitive. To maintain a cutting edge, recruiters should to consider technologies beyond those that are paper-based only. While successful student enlistment in this modern day era is still accomplished using linear technology (mail outs of brochures, catalogs, letters, etc.) high-tech alternatives may further enhance established print formats and generate even greater success. The utilization of newer formats: the World Wide Web pages and gopher sites on the Internet, videotapes, and CD- ROM discs, are predicted will pave the way for new recruitment directions. Landoni and Catenazzi (1993) reported that there were many disadvantages resulting from the static and non-reactive nature of paper-based publications. These included:

- difficulty of updating the content,
- difficulty of locating information,
- absence of sound, animation and moving pictures,
- cost of dissemination,
- possibility of being easily damaged,
- difficulty of customizing information.

Hypermedia is the solution to all of the above described problems. It may prove to be a good alternative to the more traditional linear formats. Hypermedia may be a tool that can be successfully used for recruitment. Grice and Ridgway (1993) said that hypermedia use needs to be judged on the basis of how well it helps people do tasks. They recently stated that:

> ...hypermedia is here today. We have assumed that hypermedia better supports the same tasks linear information supports. ... we need to ask whether the benefits of hypermedia are uniform, or whether there are some tasks to which hypermedia is better suited. This is an area where research would be valuable.

Cortinovis (1992) additionally supported the usage of the computer and its more creative aspects to develop multimedia:

> It is only in a later phase that the new technology begins to be creatively exploited: the computer is used to compose and read hypermedia documents. ...the computer is now being discovered as a "new" medium:...it can be multimedia, but most important of all, it is interactive.

Project

The objective of this CD -ROM project was to create a master and multiple copies for dissemination of information, to potential students who have indicated an interest in our graduate and certification programs. We combined pertinent information from the following sources:

- our graduate catalog,
- state education certification bulletins,
- parts of television scripts and footage used in recent departmental and College of Education productions,
- photographic stills, slides and computer generated animation
- portions of pre-recorded video taken from recent interviews that were conducted with current graduates, faculty, and administrators from various offices on campus.

The disk contains information about the following masters and doctoral programs offered by the Secondary and Higher Education (SHEd) Department:

- College Teaching,
- Community College Teaching,
- Secondary Education,
- Vocational Technical,
- Educational Microcomputing,
- Educational Media and Technology,

- and Library Science.

In addition to information on the various academic programs, information on other available and important services was provided. These included:

- university admissions
- graduate school policies and requirements
- availability of financial aid and loans
- a directory of SHEd faculty (including e-mail addresses)
- community demographics
- health and medical facilities,
- public schools and day care facilities
- public and private housing,
- community and area recreational opportunities,
- local banking and loan institutions
- shopping centers
- extra-curricular activities
- accreditation

Making a CD-ROM is a process that costs time and possibly money, but a CD can provide a powerful medium for the transmission of information, the operation of programs, or the storage of data. The huge capacity of CDs to accommodate massive amounts of data and large programs enables them to be used for the dissemination of educational programs in a way that no other medium can. The creation and production of CDs has previously been limited to agencies or companies which could afford the hardware to record or "burn" the CDs. Recent drops in the cost of CD recorders now brings the process of CD production closer to users at large. The issue of prohibitive time constraints for a CD project is diffused by combining the talents of a team in a joint venture, drawing on the special abilities of each of the team members. The process is straightforward, however, and can be done by one person from start to finish, if the scope of the project is carefully limited.

The Procedural Steps

The steps in the process, and suggested software and hardware needed to complete a CD project, are delineated below:

1. The first step in the process of creating a CD-ROM is creation of a flow-chart. The objectives of the project are translated into sections and sub-sections for the program. No attempt will be made here to define procedures for making a flow-chart. This will vary, according to project requirements and program parameters. Beyond the flow chart, creation of story-boards can be used to embellish and flesh out the program content (various sub-sections of the flow-chart).
2. The next step involves the collection of raw materials for the project. This includes still photos, CDs, videotapes, printed documents, and the like. These may be pre-fabricated, even commercial (as long as copyright limitations are honored), or they may be tailor-made by the CD author. Once you decide to make a CD and have completed a flow chart for the project, you must either find or create the components that will form the content of your program.
3. Still photos will probably be scanned into files. DeskScan or Omni-Page Pro can be used, along with an HP scanner or the equivalent. There are many other sources for pictures, of course, such as CDs, "digitized camera" shots, or the Internet. Once pictures have been scanned, they can be edited and altered in a paint program, such as Paint Shop Pro.
4. You may also have text that you want to include in the program (more than likely); an easy way to bring text into your program is by scanning. Scanning text can be done with WordScan or with such software as Omni-Page Pro. The "Acquire" feature in Word 6.0, also allows you to scan directly into a word processing text file.
5. Video utilizes large amounts of disk space in a hurry. It will need to be used judiciously, always with a view toward economical treatment of this medium. Video must first be captured. Digital Video Producer Capture (DVP) was used to digitize the video for the SHEd-CD project. We used a SVHS player to advance the video signal to the computer. You will need to check the specifics of your capture card as they vary. Some will accept multiple sources of video while others are more narrow in their input capabilities. The DVP program allows you to place your clips into AVI (video) files for manipulation within the CD program.
6. Once video has been captured, it must be edited. An excellent program for editing video/audio (motion) and stills, is Adobe Premiere 4.0. This software allows you to blend your clips in creative ways. It also provides transitions for scene changes. This is a powerful editing tool and is quite easy to use.

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7. All of these components will need to be brought together into a meaningful arrangement, so that CD users will get the point or reach the objective of the CD. To create a user interface and add the components for your program, you will need authoring software...that is, unless you are proficient in and prefer to use programming language, such as C++. The SHEd-CD project was created in an excellent authoring program called Multimedia Toolbook (from Asymetrix Corp.). Learning to use Toolbook may take some time, but its ability to create a framework for an interactive CD project is just outstanding.
8. Finally, the CD must be recorded or "burned" on a blank disk. Surprisingly, CD recorders are now obtainable for around $1500, and will become even more affordable in the immediate future. It is equivalent to making a back-up cartridge tape, in terms of difficulty of use...i.e., it is NOT hard to do.

Since we have Pinnacle CD-R hardware and software available on campus, our initial time delays and costs were minimal. Blank CDs can be purchased for $10-15 each. After recording "one-off" disks, we conducted pilot tests to see how well they worked. We then revamped the materials where needed, and burned another one, until we were satisfied with the product. Kiosk like hyperlinks to various topics (via buttons and icons) were used as the primary method to access the menu driven information.

In order to determine whether the product was "attractive" to students, we tested it on graduate students from our campus. The responses have been exceptionally positive. Our plan is to replicate and distribute the disk via the traditional methods of recruitment. Because replication costs are dropping rapidly, they no longer pose a problem in terms of cost per disk. We found prices in the $1.60/disk range for 500 discs to be available and acceptable.

The SHEd-CD project is evidence that CD production is within the reach of many who may believe that such an achievement is best left with experts or professionals. You, too, can make a CD-ROM.

Hardware and Software

These programs assume the use of a Pentium processor, minimum 8 MB RAM, and--for CD-ROM creation--400 MB or more of hard drive space. Keep in mind that a CD can hold up to around 680 MB, which means that you may make your program that large (especially if you include a lot of video), in which case you will need a commensurate amount of hard drive space. The SHEd-CD project incorporated the use of the following software programs:

- Asymetrix Multimedia Toolbook 3.0 for Windows
- Digital Video Producer Capture
- Adobe Premiere 4.0
- Sound Blaster Audio
- Video for Windows
- Wave Form and MIDI sound
- Paint Shop Pro
- Desk Scan II
- Word Scan
- Word 6.0
- Pinnacle CD-R
- Morph
- Animation Works

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